

**A KEY TO THE NORTH AMERICAN SPECIES OF THE GENUS SUILLIA R.-D. (DIPTERA, HELOMYZIDAE).**

BY GEORGE STEYSKAL, Detroit, Michigan.

After considerable experience with the keys to the genus *Suillia* contained in Aldrich and Darlington (1908) and Czerny (1924, in German) the writer felt that a new key to the North American species was desirable and offers the following in the hope that it will prove an aid in determining these flies.

Since the arista is all too frequently lacking in material to be determined, an attempt has been made to obviate as far as possible dependency upon antennal characters. The wing picture, although usually faint, seems dependable and is easy to recognize once it is grasped and becomes useful as a catch-character. Certain characters of the legs of the males are very useful. The "cerebral hairs" are a small, dense double patch of hairs on the back of the head immediately above the neck.

KEY TO NORTH AMERICAN SPECIES OF SUILLIA.

- 1 (8). Head with black areas on each side of ocellar triangle or wings with dark spots in cells besides darkening of costal region and crossveins (Mexican species) . . . . . 2
- 2 (5). Wings with dark spots in cells . . . . . 3
- 3 (4). Numerous spots in all wing-cells. *polystigma* V. d. Wulp
- 4 (3). Two spots in first posterior cell and one or two in cells anterior thereto . . . . . *distigma* V. d. Wulp
- 5 (2). Black areas each side of ocellar triangle . . . . . 6
- 6 (7). Infuscation about posterior crossvein extending both ways along fourth vein, forming a T-shaped mark *iniens* G.-T.
- 7 (6). Clouding of posterior crossvein not extending along fourth vein . . . . . *punctulata* V. d. Wulp
- 8 (1). Otherwise (species from north of Mexico) . . . . . 9
- 9(18). Mesopleura haired, at least a few hairs before the pteropleural suture . . . . . 10
- 10(11). Scutellum bare except the sides; posterior border of mesopleura bearing hairs; wings with ends of longitudinal veins with distinct brown spots; arista short-pubescent (D. C. [Lw.]; New England [Jns.]; N. Y. [Leonard]; Nova Scotia [v. i.]) . . . . . *apicalis* Lw.
- 11(10). Scutellum more extensively haired . . . . . 12
- 12(13). Arista short-pubescent; a blackish spot between each eye and antenna; mesopleura with numerous strong hairs; end

- of longitudinal veins strongly infuscated; fore femora blackish; hind tibiae with spot or band at proximal end; dorsum of thorax dotted at bases of hairs and bristles (N. M., S. D., Mont. [Darlington]; Ore. [Cole and Lovett]; Ariz., Calif.) ..... *barberi* Darl.
- 13(12). Arista long pubescent to plumose ..... 14
- 14(17). End of longitudinal veins with distinct infuscation; dorsum of thorax dotted at bases of hairs and bristles; orbito-antennal spot present ..... 15
- 15(16). Eyes in life with a crossband in the upper third (Europe; Colo. [Czerny.]) ..... *nemorum* Mg.
- 16(15). Eyes in life unicolorous; fore femora largely pale (widespread in nearctic region) ..... *assimilis* Lw.
- 17(14). End of longitudinal veins not infuscated, but the whole costal region faintly so, except narrowly along the second vein, also a faint longitudinal stripe in center of first posterior cell; orbito-antennal spot absent; thoracic dorsum not dotted; mesopleura with only a few hairs before the pteropleural suture (or none); *male*: fore and middle legs with long, usually prostrate hairs on ventral side of tibiae and posterior side of metatarsi (northeastern North America) ..... *longipennis* Lw.
- 18(9). Mesopleura entirely bare. 19 (cf. also *S. chaetomera*, below).
- 19(22). Head distinctly higher than long, eyes high-oval; thoracic dorsum dotted; crossveins clouded ..... 20
- 20(21). Scutellum with hairs on margin between bristles only; *male* unknown (Calif.; Czerny 1926) .. *sororcula* Czerny
- 21(20). Scutellum haired on entire dorsal surface; heaviest spot at end of second longitudinal vein; *male* with erect longish hairs on ventral and posterior sides of middle tibiae and posterior side of middle metatarsi (eastern North America) ..... *quinquepunctata* Say
- 22(19). Head at least as long as high, eyes roundish ..... 23
- 23(26). Scutellum without evident hairs on dorsum ..... 24
- 24(25). Wings entirely hyaline; arista pubescent; *male*: fore and hind femora greatly thickened; a short, stout, downwardly directed thorn at anterior distal end of fore metatarsi; fore femora and coxae with very long hairs below; middle coxae with a thick tuft of black hairs (northernmost States, Canada, and Alaska; = *S. zetterstedti* and *S. bicolor* auctt.) ..... *loewi* Garrett
- 25(24). Wings strongly infuscated along costa and cross-veins;

arista plumose; *male*: no thorn on anterior metatarsi, no long hairs on middle tibiae (Calif., Wash., Ore.).

*limbata* Thomson

26(23). Scutellum with easily perceptible hairs on dorsum; arista plumose; wings with tinted areas . . . . . 27

27(28). Hairs of dorsum of scutellum largely confined to basal half; wings with distinct brown spots at end of second to fourth longitudinal veins; cerebral hairs blackish; *male*: femora not remarkably enlarged, femora and tibiae without hairs longer than the diameter of those parts (widespread, mostly in East) . . . . . *plumata* Lw.

28(27). Hairs evenly distributed over whole surface of dorsum of scutellum; infuscation of wing light, not in the form of spots at the end of longitudinal veins; cerebral hairs yellow or reddish (cf. 17 above) . . . . . *longipennis* Lw.

*Suillia apicalis* (Loew)

*Helomyza apicalis* Loew, 1862. Berl. Ent. Zts., 6: 226 (Cent. 2, no. 86 (translation, Aldrich and Darlington, 1908, Trans. Amer. Ent. Soc., 34: 96).

Since no description other than that of Loew is available, the following notes based on a male specimen kindly loaned by Cornell University are offered. The specimen was collected at Truro, Nova Scotia, 13 July 1913, by R. Matheson, and bears a determination label of C. B. D. Garrett. It agrees well with Loew's description.

Crossveins and end of second vein strongly spotted; marginal cell and upper half of submarginal cell yellowish; thoracic dorsum without spots at bases of hairs and bristles; arista pubescence about as long as diameter of base of arista; eyes roundish; cheeks one-third eye-height; cerebral hairs black; about a dozen hairs near posterior margin of mesopleura; middle tibiae and metatarsi with longish erect posteroventral hairs; front metatarsi without claw; femora distinctly swollen; a few hairs on each side of upper surface of scutellum.

*Suillia chaetomera* Czerny, 1930, Konowia, 12: 236.

It has not been possible to place this species in the key; the following translation of the description is therefore given.

"The only specimen at hand was not well matured. Wholly pale yellow, only the antennae reddish yellow and the front between the ocellar triangle and the orbital plates somewhat

browned. Front posteriorly very broad, more than half the total width of head, anteriorly strongly narrowed, above the antennae half as broad as the vertical diameter of the eyes, short and fine-haired, a moderately long vibrissa on each side. Third antennal joint short-oval, arista black, pale yellow at base, long-plumose, proboscis and palpi pale yellow. Hair of mesonotum very short and fine, mesopleura bare, one sternopleural bristle preceded by a row of smaller bristles; scutellum bare, only with a few hairs between the marginal bristles. Wing rather dark, crossveins black-seamed, the ends of the second to fourth longitudinal veins scarcely approaching each other, costal bristles moderately long. Calypters white, with pale yellow fringe. The three last tarsal joints brownish, fore femora below with long black and yellow hairs, middle femora anteroventrally with dense black setulae, posteroventrally from the base outwards with short and long black hairs, in the apical third with dense black setulae, hind femora below from the base outwards with long, pale hairs, from behind the middle not quite to the tip antero- and posteroventrally with long black bristles (in the specimen at hand partially broken off), anterior tibiae ( $t_1$ ) on inner side of apical half with dense yellow setulae, middle tibiae ( $t_2$ ) at the metatarsus inwardly with moderately long yellow hairs, middle coxae outwardly with approximately four and anteriorly with dense long black bristles. The black marginal bristles of the abdominal segments are long and strong. Hypopygium moderately large.—One male from California, May 17. 5mm.”

## LITERATURE CITED

- Aldrich and Darlington.** 1908. The dipterous family Helomyzidae, *Trans. Amer. Ent. Soc.*, 34: 67-100, pls. 3-5.
- Czerny, L.** 1924. *Monographie der Helomyziden*, *Abhandl. zool.-bot. Ges. Wein*, 15(1): 1-166, pl. 1.
1933. *Ergänzungen zu meiner Monographie der Helomyziden*. VIII. *Konowia*, 12: 236-238.

---

**MAILING DATE OF OCTOBER BULLETIN**—This date on the cover page is given as November 16. Owing to press difficulties, actual mailing date is November 27.—Editor.